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MIMULUS EVANESCENS (SCROPHULARIACEAE): A NEW ANNUAL SPECIES FROM THE NORTHERN GREAT BASIN

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ABSTRACT.—Recent taxonomic studies in *Mimulus* support the recognition of *Mimulus evanescens*, a new autogamous species morphologically allied with *M. breviflorus* and *M. latidens*. Initially known only from herbarium specimens, the most recent from 1958, *M. evanescens* was relocated in the field in 1990 in northern Lassen Co., CA. A second population was found in southern Lake Co., OR, in 1993. *Mimulus evanescens* is apparently confined to the Great Basin and its periphery, where it has been recorded from 10 localities across Idaho, Oregon, and California. Based on collection information and visits to the two extant populations, the new species appears to be restricted to vernally moist sites and fluctuating banks of intermittent streams or pools. Long-term utilization of such sites by livestock may have contributed to the present-day rarity of *M. evanescens*. The species should be added to federal and state lists of candidate endangered species pending the results of future field studies and surveys.

Key words: Mimulus, *Great Basin, taxonomy, Scrophulariaceae, monkeyflower,* Mimulus breviflorus, Mimulus latidens.

Mimulus breviflorus is a diminutive, self-pollinating, annual monkeyflower occurring primarily east of the Sierra Nevada and Cascade Mountains in the northwestern United States and adjacent British Columbia. Little is known concerning the evolutionary or taxonomic relationships of this or most other taxa in the genus, which comprises perhaps 100 predominantly North American species (Thompson 1993). In the only comprehensive monograph of the genus, Grant (1924) placed *M. breviflorus* in section *Paradanthus*, an assemblage of small, problematic species groups that are probably paraphyletic and considered difficult to align taxonomically (Argue 1980). Indeed, in a proposed phylogenetic chart Grant (1924) affiliated the yellow-flowered *M. breviflorus* with the *M. moschatus* alliance, while in the text of her paper she associated the species with members of the *M. inconspicuus* group, particularly the white- to pinkish-flowered *M. latidens* of California.

The proposed relationship between *Mimulus breviflorus* and *M. latidens* is largely based on shared features of the corolla and calyx. Both species possess short, inconspicuous corollas and strongly plicate, chartaceous fruiting calyces that inflate with age. Although inflated calyces are also described for some members of the *M. moschatus* complex (Grant 1924, Munz 1959, Holmgren 1984), the consistently reduced, essentially regular flowers of *M. breviflorus* and *M. latidens* are unlike any species in that group. The calyx morphology and texture of the two species is also different, being singularly reminiscent of *M. inconspicuus* and its proposed relatives (Grant 1924). Moreover, the general habit of *M. breviflorus* and *M. latidens* is more comparable to this group than to any other.

Despite the similarities, *Mimulus breviflorus* and *M. latidens* are quite distinct with respect to geography and habitat. *Mimulus breviflorus* is a basin and range species, principally occurring in well-drained, rocky environments near rain pools, rocky meadows, and ephemeral streamsides, often at middle and upper elevations. It has rarely been recorded south of extreme northeastern California, and only then above 2000 m. *Mimulus latidens* occurs mostly on poorly drained flats or slopes subject to vernal inundation, primarily below 800 m. The species is virtually endemic to California, extending from the Central Valley to northern Baja California. The apparent uncertainty by Grant (1924) over the taxonomic placement of *M. breviflorus* may have been influenced by geography, in that the range of the species overlaps much of the *M. moschatus* complex but not *M. latidens* or the *M. inconspicuus*

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group, which are restricted to cismontane California.

The present study was prompted by several unusual herbarium collections identified as *Mimulus breviflorus*, discovered during a taxonomic survey of the *Mimulus washingtonensis* complex (Meinke in preparation) in which several hundred collections (including all relevant types) were examined. Despite the evidently yellow flowers and the fact that the few collection localities were well within the known range of *M. breviflorus*, the plants were similar to *M. latidens* in many respects. The anomalous material originated from several scattered stations across the upper Great Basin and its northern periphery, all within areas believed historically grazed by livestock. The most recent of these collections is dated 1958, and there was concern that the entity may have become extinct in the interim. Unexpected opportunities to observe living populations in the field were presented in 1990 and 1993 during chance visits to two reservoirs in Lassen Co., CA, and Lake Co., OR. The unique and consistent combination of features noted in herbarium collections, including bright yellow corollas, was even more conspicuous in living plants, prompting a taxonomic reevaluation of their relationship with *M. breviflorus* and *M. latidens*. After further evaluation, the unusual populations were considered to represent a new species which is here described, illustrated, and contrasted with potentially related taxa.

DESCRIPTION OF THE SPECIES

***Mimulus evanescens* Meinke, sp. nov.** (Figs. 1A–C).—TYPE: USA, California, Lassen Co., 20.5 km east of Adin, north side of Ash Valley Rd., ca 0.1 km east of the Lassen National Forest boundary, in broken boulders and heavy gravel abutting Moll Reservoir, T38N R10E, NW1/4 SW1/4, Sect. 25, ca 1500 m, 27 June 1990, *Meinke and Kaye 5900* (holotype, OSC; isotypes, MO, NY, RM, UC, US, UTC).

Herbae annuae, puberulentes, ± viscido-villosae; *caulis* tenuis, erectis, (6–)10–25 cm altis, internodiis elongatis; *foliis* late ovatis vel lanceolatis, lamina integerrima vel parce denticulata, acuta, 1.0–3.8 cm longa, 0.7–2.9 cm lata, 3(–5) nervis, base lata, sessili vel subsessili; *pedicel* foliis brevioribus, tenuibus, ascendentibus; *calyce* in statu florifero 3.5–6.5 mm longo, 1.5–3.5 mm lato, in statu fructifero late urceolato, 7.0–11.0 mm longo, 5.0–8.5 mm lato, valde glabro, dentibus ciliati, late triangularibus, ± subaequalibus, acutis; *corolla* flava, brevi, 4.0–9.5 mm longa, calyce ca 1.5 plo longiore, tubo incluso, lobis ± aequalibus, patulis, erectis; *staminibus* stylo aequalibus, inclusis, glabris; *stylo* glabro, 3.0–7.8 mm longo, labiis stigmatis laciniatis, subaequalibus; *capsula* inclusa, subglobosa, 4.8–9.0 mm longa, sessili vel substipitata; *seminibus* late oblongis, ca 0.3–0.6 mm longis.

Annual herb, ± succulent, glandular-puberulent throughout (except the calyces), the hairs short and appearing of even length to the naked eye, moist or slimy to the touch, mostly one-celled (excluding the gland); *stems* slender, (6–)10–25 cm tall, erect to slightly decumbent in robust individuals, simple or branched from near the base, often sparingly branched above as well, with elongated internodes; *leaves* acute, broadly ovate to somewhat lanceolate, 1.0–3.8 cm long, 0.7–2.9 mm wide, evenly distributed, not much reduced at the upper nodes, not forming a basal rosette, the lower ones abruptly petiolate or subsessile, petioles 1–3 mm long, blades broadly sessile above, with 3(–5) primary veins, the margins entire or shallowly denticulate; *pedicels* slender, 8–18 mm long, ascending in flower and fruit, shorter than the leaves in fruit or longer in depauperate individuals; *inflorescence* racemose, flowers axillary; *flowers* inconspicuous, autogamous; *calyx* 3.5–6.5 mm long and 1.5–3.5 mm wide in flower, tubular-campanulate at anthesis, green becoming stramineous and anthocyanic along the angles with age, accrescent and broadly urceolate to oval in fruit, 7.0–11.0 mm long and 5.0–8.5 mm wide, the tube chartaceous and glabrous, the orifice narrowing and becoming somewhat oblique, the angles strongly plicate, the teeth broadly triangular, acute, 0.8–1.6 mm in fruit, ciliate on the margins, scarcely unequal, the uppermost lobe occasionally appearing slightly longer in some flowers; *corolla* short and essentially regular, 4.0–9.5 mm long, clear yellow or occasionally with a few tiny brownish dots in the throat, the inconspicuous petal lobes rounded or mucronate, the tube included or barely exserted, the limb exceeding the calyx by 2–3 mm, lobes short and subequal, mostly erect, glabrous externally, bearded internally with a few ± clavate hairs extending in a line from the lower palate into the floral tube;

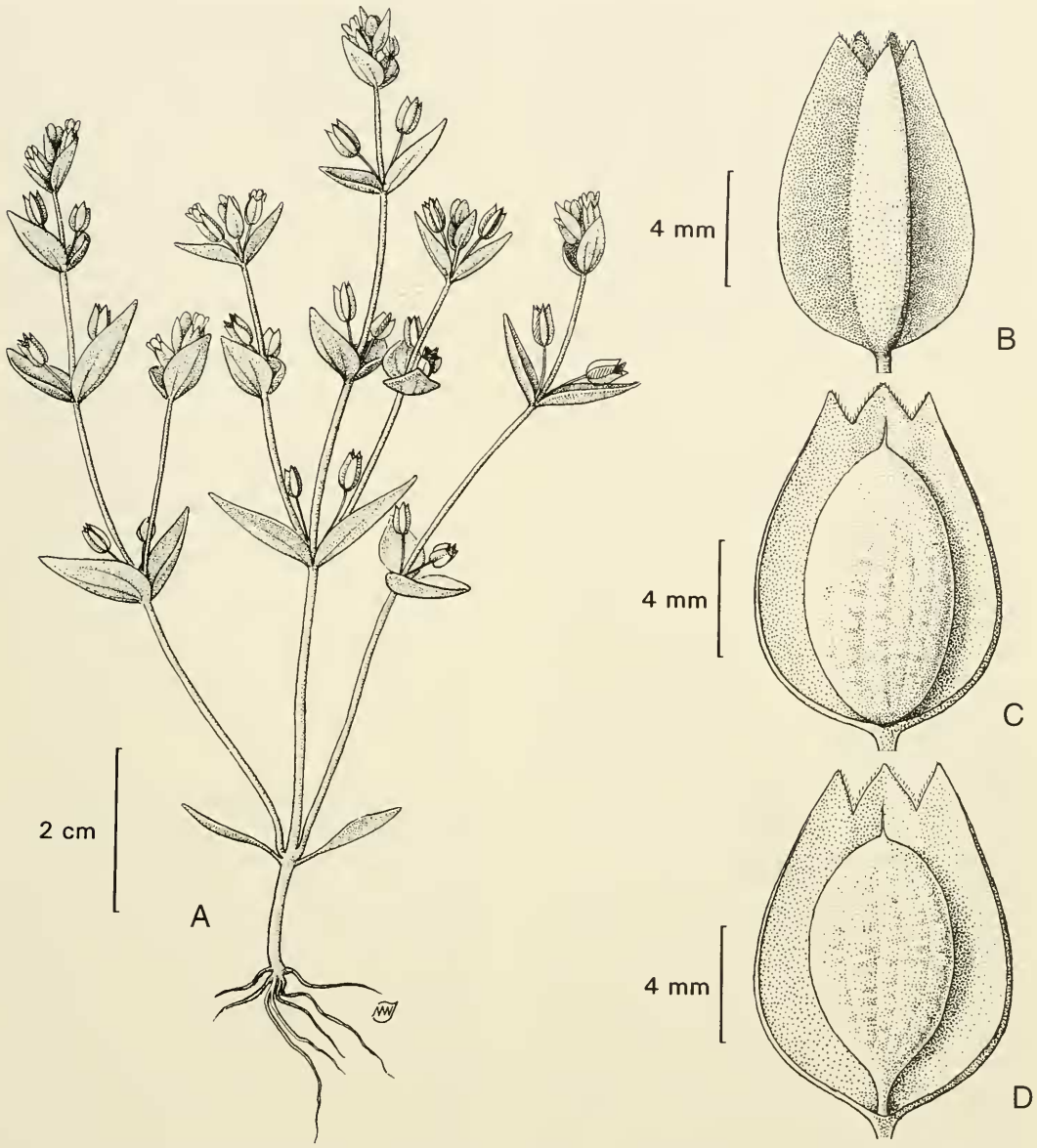

Fig. 1. *Mimulus evanescens* Meinke: A, habit drawing showing details of leaf morphology, inflorescence, and relationship between pedicel and leaf blade length; B, close-up of fruiting calyx of *M. evanescens*; C, calyx of *M. evanescens* opened to show sessile capsule insertion; D, calyx of *M. latidens* opened to show stipitate capsule insertion.

stamens included, about equal with the style, glabrous, pale; *style* glabrous, included, 3.0–7.8 mm long, stigma lips equal or subequal, shallowly laciniate-margined; *capsule* included, subglobose, 4.8–9.0 mm long, extending to ca 1.0–2.5 mm below the sinuses of the calyx teeth, sessile, or rarely with an abbreviated stipe up to ca 0.5 mm long, the placentae adherent to the apex; *seeds* ovoid or broadly oblong, brownish, 0.3–0.6 mm long, dormant when first ripe, dispersal often delayed or prolonged due to the nearly closed, inflated calyx.

PARATYPES.—**USA, California,** Lassen Co., 10 mi south of Ravendale, 9 June 1940, *Pennell 25763* (P); 4.8 mi south of Madeline, 17 June 1958, *Raven and Solbrig 13298* (JEPS); Modoc Co., along Willow Creek, June 1894, *Austin s.n.* (UC). **Idaho,** Owyhee Co., meadow, 3 mi south

of Riddle, 1 July 1949, *Holmgren and Holmgren 7973* (CAS, UC, WS, WTU). **Oregon,** Crook Co., Grizzly Butte, 18 June 1894, *Leiberg 275* (NY, ORE, US); Gilliam Co., forks of Cottonwood Canyon, 6 June 1894, *Leiberg 156* (NY, ORE, P, US); Grant Co., Ochoco National Forest, Graylock Butte, 6 July 1912, *Ingram s.n.* (RM); Harney Co., dry watercourse near Frenchglen, 26 June 1942, *Peck 21389* (CAS, NY, P, UC, WILLU); Lake Co., moist to muddy margins of receding water, among rocks, Drews Reservoir, 15 June 1993, *Meinke and Carlson 6401* (BRY, HSC, NY, OSC, RM, RSA, SRP, UC, US, UTC, WS, WTU).

DISTRIBUTION AND HABITAT.—*Mimulus evanescens* is distributed widely along the northwestern edge of the Great Basin at elevations of ca 1200–1700 m, ranging from southwest Idaho west through eastern Oregon and south into northeastern California. *Mimulus breviflorus* is more widespread and considerably more common. Although inconspicuous even when in bloom, it has been recorded from numerous collections located throughout much of the northwestern United States east of the Sierra Nevada and Cascade ranges. Outlying populations are known from southern British Columbia and south (rarely) to the mountains near Lake Tahoe. *Mimulus breviflorus* has a broader elevational range than *M. evanescens*, occurring from roughly 300 to 2900 m.

Mimulus latidens is essentially a California endemic, distributed below 800 m from the northern Central Valley south to San Diego. The most southerly populations are known from northern Baja California, while four historic collections from extreme southwestern Oregon, originally identified as *M. breviflorus*, represent the northern range limits. A recently discovered Great Basin population of *M. latidens*, occurring at ca 1700 m in southern Lake Co., OR (Shelly 1986), is noteworthy as it is the single recorded locality in which the range of this otherwise low-elevation species overlaps either *M. evanescens* or *M. breviflorus*. The population was persisting over several acres in a sagebrush-dominated swale as of 1993. This area is along the flyway for various waterfowl species migrating northeast across the Great Basin from central California.

The habitat of *Mimulus evanescens* can be evaluated only from the two extant localities, the first adjacent to Moll Reservoir in Lassen Co., CA, and the second at Drews Reservoir in Lake Co., OR, both occurring within sagebrush-juniper–dominated vegetation zones. Plants at both sites were scattered among rock fragments and alongside small boulders, in moist, heavy gravel that had been inundated earlier in the spring. The California population was discovered in 1990 and visited again in 1991, while the Oregon population was first located in 1993. Associated species during these years (for both locations) included *Artemisia tridentata, Juniperus occidentalis, Mimulus floribundus, M. suksdorfii, Porterella carnosula, Collinsia grandiflora, C. parviflora, Downingia* sp., *Mimetanthe pilosa, Heterocodon rariflorum, Poa bulbosa,* and *Bromus* spp. The perennials *Machaerocarpus californicus* and *Marsilea vestita* were common along the shoreline at the Lassen Co. site. Remaining locations for *M. evanescens* are known only through scanty herbarium labels, with specimens reportedly taken from rocky stream banks or drying watercourses. *Mimulus breviflorus* occurs in comparable microsites, frequenting wet, rocky sites that often dry out by late spring or early summer, as well as lush, gravelly meadows.

MORPHOLOGICAL COMPARISONS.—Monkeyflowers are often phenotypically plastic, and related annual species in particular may be subject to overlapping morphological variation depending on ecological conditions. In an attempt to objectively evaluate the phenetic relationships of the new species and its most similar congeners, a data set was compiled by scoring 18 vegetative and reproductive character states (Table 1) from 114 *Mimulus* collections representing 38 populations. Measurements were taken from 15 populations each of *M. latidens* and *M. breviflorus*, and 8 of the 10 extant and historical populations of *M. evanescens*. Three plants were measured per collection to provide population averages for each quantitative trait. Sample populations of *M. latidens* and *M. breviflorus* were selected from herbarium collections encompassing the geographic range for each species. Every effort was made to choose individuals of the three species that, based on field experience of the author, represented normally developed plants (i.e., not drought-stressed) from approximately the same life-history stage. Measurements were made on randomly selected individuals where possible, insofar as the limited number of phenologically acceptable collections permitted.

TABLE 1. List of morphological traits measured from *Mimulus* plants for use in principal components analysis. Thirty-eight study populations were sampled, including 15 each for *M. latidens* and *M. breviflorus*, and 8 for *M. evanescens*. An average measurement was derived for each trait (from 3 samples per population) for use in the analyses.

(1)	Presence or absence of a basal rosette
(2)	Length of initial stem leaf
(3)	Width of initial stem leaf
(4)	Length of upper cauline leaf
(5)	Width of upper cauline leaf
(6)	Base of upper cauline leaf (sessile versus distinctly petiolate)
(7)	Peduncle length (in fruit)
(8)	Calyx length (in fruit)
(9)	Calyx width (in fruit)
(10)	Length of calyx teeth (in fruit)
(11)	Overall corolla length
(12)	Corolla color (yellow versus rose, whitish, or ochroleucous)
(13)	Length of lower corolla lip
(14)	Width of lower corolla lip
(15)	Length of capsule
(16)	Width of capsule
(17)	Capsule insertion (base sessile versus distinctly stipitate)
(18)	Stem and leaf pubescence (clearly glandular-puberulent versus glabrous or subglabrous)

The data set was initially used to analyze morphological relationships between *Mimulus evanescens*, *M. latidens*, and *M. breviflorus* using a principal components analysis (PCA). Clustering relationships of sample populations were compared along the first two axes of variation and graphically displayed. As a second measure of overall dissimilarity, canonical discriminant analysis (DA) was performed on the same populations using only the quantitative characters from Table 1 (i.e., eliminating traits 1, 12, 17, and 18). On herbarium specimens the resolution of certain qualitative traits, such as flower color and degree of pubescence, may be open to interpretation if specimens are poorly preserved or mishandled after collection. Since many of the available *Mimulus* collections were old or otherwise less than optimal for a morphometric study, the potential existed for errors in judgment of qualitative traits to bias the analysis. As an alternative, DA was utilized to determine whether the elimination of diagnostic qualitative traits would result in a weaker phenetic relationship than that indicated by PCA. The multivariate statistical package in STATGRAPHICS (v. 4.0) was used for the two analyses.

PCA clustered the 38 populations into three well-defined groups conforming to a priori determinations of samples as *M. evanescens*, *M. latidens*, or *M. breviflorus* (Fig. 2). The first two principal components accounted for 88% of total variance (Table 2), indicating that the PCA scatterplot (Fig. 2) is a good gauge of overall morphological differences among the three species. DA resulted in a comparable pattern, although *M. evanescens* clustered somewhat closer to *M. latidens* when qualitative characters were excluded (Fig. 2). In both analyses, *M. evanescens* is clearly and consistently intermediate to *M. latidens* and *M. breviflorus*.

Upon first inspection *Mimulus evanescens* appears to be merely a robust version of *M. breviflorus*. The yellow, nearly regular corollas, essentially nonstipitate capsules, and short-puberulent foliage and stems are traits that are virtually identical in the two species. Since *M. evanescens* also develops papery, inflated fruiting calyces, which is the most prominent feature in most specimens of *M. breviflorus*, it is understandable that the identity of the new species has been obscured. However, the oversized habit of *M. evanescens* is striking, and all floral and vegetative characteristics average larger than in *M. breviflorus*.

The significance of these proportional differences was first noted when fresh material of *M. evanescens* from the type locality was compared with greenhouse-grown plants of *M. breviflorus*. Although many individuals of the new species suffered from insect predation in the field and others appeared underdeveloped due to drought, undamaged plants from moist microsites commonly grew to 2 dm or more, far exceeding the largest examples of *M. breviflorus*. Conversely, *M. breviflorus* plants cultivated in the greenhouse (originating from three distinct populations in eastern Oregon) never exceeded 12 cm in height. Rather than growing taller with age, they tended to branch out and become unusually floriferous. This observation was confirmed when plants of *M. breviflorus* and *M. evanescens* (32 and 27 individuals, respectively, from populations in Lake Co., OR) were grown together from seed in a common greenhouse environment. Given identical conditions, all *M. evanescens* plants grew to over twice the size of *M. breviflorus*. In addition, all quantitative and qualitative differences for the species originally noted on the

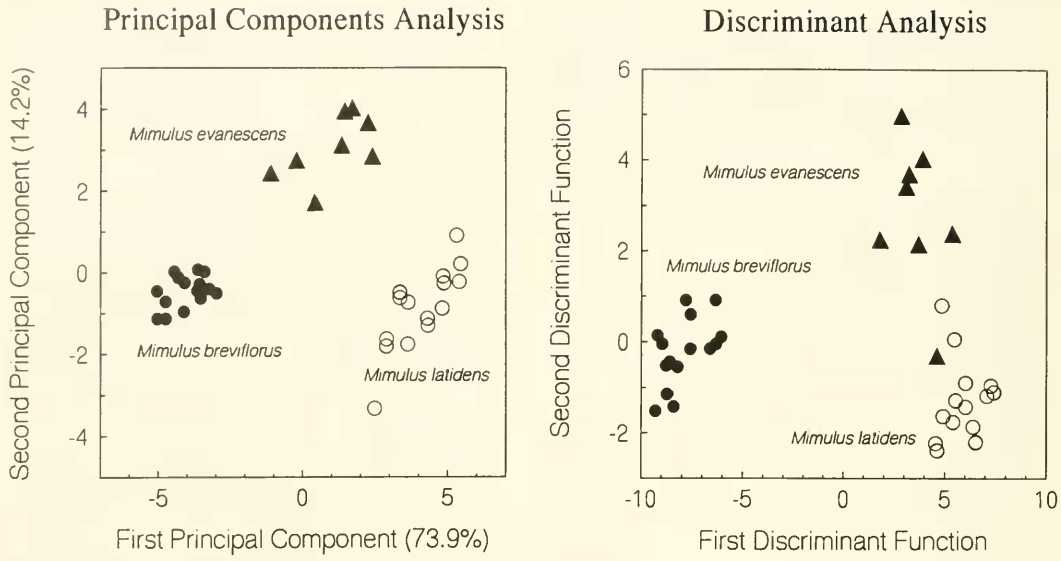

Fig. 2. Morphometric evaluations (see text for discussion): two-dimensional plots depicting principal components (18 qualitative and quantitative characters) and discriminant analyses (14 quantitative characters), contrasting the morphological relationships of *M. evanescens* (triangles), *M. latidens* (open circles), and *M. breviflorus* (closed circles).

herbarium specimens were maintained in culture. Although some herbarium specimens of *M. evanescens* are not particularly large, it is suspected that this is due to moisture limitation rather than genetic potential, based on observations of living plants.

In addition to the overall size disparity, other features readily separate *Mimulus evanescens* from *M. breviflorus*. Most evident are the leaves, which are ovate to broadly lanceolate in the new species and rhombic-ovate or narrowly lanceolate in *M. breviflorus*. Moreover, only the very lowest leaves of *M. evanescens* are petiolate, and these abruptly so (Fig. 1A), while leaf blades of *M. breviflorus* narrow gradually into slender, evident petioles at all nodes. In fruit, the pedicels of *M. breviflorus* generally exceed or at least equal the leaf blades. Those of the new species are always shorter in well-developed plants, and in some instances the leaf blade exceeds the calyx as well. Finally, the fruiting calyx of *M. evanescens* is much more plicate and typically exceeds the length of the mature capsule by 1.5–3.0 mm (Figs. 1B,C). In *M. breviflorus* ripe capsules are approximately the same length as the calyx. The overall dimensions of *Mimulus evanescens*, as well as the strongly angled fruiting calyx and broad, sessile leaves, are traits that also imply a relationship with *M. latidens*. There are substantial differences between these taxa, however, including flower color, pedicel length in relation to leaf length, stem pubescence, capsule insertion (Figs. 1C,D), and the presence of a basal rosette in *M. latidens*. Dissimilarities among the three species are summarized in Table 3.

TABLE 2. Amount of total variance accounted for by each principal component, in a principal components analysis of morphological variation among populations of *Mimulus evanescens*, *M. breviflorus*, and *M. latidens*.

Component number	Percent of variance	Cumulative percentage
1	73.88	73.88
2	14.18	88.06
3	3.75	91.81
4	2.41	94.22
5	2.12	96.34
6	1.22	97.56
7	.57	98.13
8	.46	98.59
9	.39	98.98
10	.29	99.27
11	.21	99.48
12	.17	99.65
13	.12	99.78
14	.11	99.89
15	.06	99.95
16	.05	100.00

TABLE 3. Diagnostic features of *Mimulus evanescens*, *M. breviflorus*, and *M. latidens*.

Character	*M. evanescens*	*M. breviflorus*	*M. latidens*
Plant height	(6–)10–25 cm	3–10(–14) cm	10–26 cm
Pubescence	Glandular-puberulent	Glandular-puberulent	Subglabrous
Basal rosette	No	No	Yes
Leaf base	Petiolate at base, sessile above	Petiolate throughout	Petiolate at base, sessile above
Leaf blade shape	Ovate to lanceolate	Elliptic-lanceolate	Broadly ovate
Cauline leaf length	1.0–3.8 cm	0.4–1.7 cm	0.8–3.2 cm
width	0.7–2.9 cm	0.2–0.5(–0.8) cm	0.5–1.7 cm
Pedicels	0.8–1.8 cm long, < the blades	0.5–1.9 cm long, > the blades	1.0–3.3 cm long, > the blades
Fruiting calyx length	7–11 mm	4–8 mm	9–12 mm
width	5.0–8.5 mm	3.0–4.5 mm	6–8 mm
Corolla color	Yellow	Yellow	Whitish, shaded rose or yellow
Corolla length	4.0–9.5 mm	3.5–5.5 mm	9.0–11.5 mm
Capsule insertion	± sessile	± sessile	clearly stipitate
Capsule length	4.8–9.0 mm, clearly inserted	4.5–8.0 mm, about equaling calyx	6.0–9.0 mm, clearly inserted
Distribution	Great Basin and vicinity	Great Basin and vicinity	Cismontane California
Elevation	~1200–1700 m	300–2900 m	≤800 m

Other small-flowered annuals that might be confused with *Mimulus evanescens* are primarily members of the *M. moschatus* complex, particularly *M. floribundus*, *M. patulus*, and *M. pulsiferae*. Of these, only *M. floribundus* is ever characterized as having an inflated fruiting calyx (Grant 1924), which can be distinguished from *M. evanescens* by the multicellular pubescence throughout and narrow, lanceolate sepals. These three species are further differentiated from *M. evanescens* by distinctly petiolate upper leaves and bilabiate corollas. Depauperate annual forms of *M. guttatus* also occur in moist sites within the range of *M. evanescens*. This common yellow-flowered species can be separated by petiolate upper leaves and strongly zygomorphic corollas. Although the calyces of *M. guttatus* are also markedly inflated, they are distinctly irregular and oriented horizontally in fruit. *Mimulus suksdorfii* is the only other annual monkeyflower in the Pacific Northwest with features comparable to *M. evanescens*. Seldom exceeding 6 cm in height, this compact, freely branched species is easily distinguished by obtuse, linear-oblong leaves, a cylindrical fruiting calyx, and flaring, emarginate corolla lobes.

PHYLOGENETIC CONSIDERATIONS.—Judging from morphology, *Mimulus evanescens* appears most closely related to *M. breviflorus* and *M. latidens*, and exhibits characteristics of both taxa (Fig. 2). *Mimulus latidens*, in turn, also seems to have a strong affinity to *M. inconspicuus*, *M. grayi*, and *M. acutidens* from California, based primarily on flower color, stipitate capsules, calyx morphology, leaf shape,

and glabrous habit (Grant 1924, Thompson 1993). Aside from general vegetative and floral similarities, the inflated, plicate fruiting calyx is the principal trait linking these six species together. Whether or not this feature implies a monophyletic group is open to debate, however, since inflated calyces have evidently arisen independently in *Mimulus* on more than one occasion. Nonetheless, the shape and texture of the calyces of these species are distinctive.

The recognition of *Mimulus evanescens* allows for a reevaluation of the relationship between *M. breviflorus* and the rest of the genus. The morphology of *M. evanescens*, transitional between *M. breviflorus* and *M. latidens*, suggests that the new species might have arisen through hybridization. However, this hypothesis conflicts with the current geographical and ecological separation of the putative parents and the fact that *M. breviflorus* is highly autogamous. An alternative scenario proposes *M. evanescens* as a descendant of *M. latidens*. The smaller-flowered and apparently more successful *M. breviflorus* (based on the number of historic collections) may have then arisen from *M. evanescens*, perhaps as a result of a shift to more xeric conditions in what is now the Great Basin. *Mimulus breviflorus* is ubiquitous and well represented in herbaria while *M. evanescens* is apparently rare and widely scattered, providing circumstantial support for this concept. The discovery of the disjunct *M. latidens* population in Lake Co., OR (Shelly 1986) is intriguing, because it suggests a mechanism by which this relationship might have developed. If genotypes of *M. latidens* capable of survival outside of California's relatively benign Central Valley have been historically transported to the Great Basin by migrating ducks or geese, the means and opportunity for adaptive radiation could have existed.

CONSERVATION.—It is not encouraging that only 10 extant or historical populations of *Mimulus evanescens* are known, with only two sites recorded since 1958. This contrasts with hundreds of collections at dozens of localities for the much less conspicuous *M. breviflorus*. As with *M. breviflorus*, the distribution of *M. evanescens* is apparently limited to damp or wet sites at moderate elevations within open rangeland. Virtually all such sites in the Great Basin are associated with a long history of grazing by domestic livestock. The broad geographic range and relatively unremarkable habitat of *Mimulus evanescens* imply that the comparative rarity of the species may be the result of habitat loss or disturbance. However, the paucity of herbarium records, especially when contrasted with similar species, suggests that *M. evanescens* may have never been common, even under pristine, pre-grazing conditions. If this is true, the combination of natural scarcity with contemporary grazing or other disturbances may now be jeopardizing the species. As an initial step, *M. evanescens* should be added to federal and state lists of *candidate* endangered species. Although confirmed from Idaho, Oregon, and California, it is expected that northern Nevada is also within the historic range of the species. Placing *M. evanescens* on candidate lists will bring the species to the attention of land managers in these states and will help justify inventory and research, which may in turn ascertain that the species is not particularly rare and has merely been overlooked by collectors. However, until this is established it is prudent to consider the species extremely vulnerable, with ample protection given to any sites occurring on public lands.

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